fourth is much shorter than the third; the fifth is shorter than the fourth; the sixth is not half the length of the fifth; the seventh is thrice the length of the sixth: the front is narrow and slightly concave: the eyes are remarkably bright red: the mouth is yellow; its tip is black: the nectaries are black, and between one-seventh and one-eighth of the length of the body: the tip of the abdomen is hairy, dark green, long and curved: the legs are hairy, long and black; the base of the thighs is pale green; the fore-thighs and the middle thighs are blackish green; their tips are black; the shanks and the second joints of the feet are slightly curved. One individual had pale green hind-feet, and one of its hind-shanks excepting the base was of the same colour. When it has shed its skin all its limbs are white, and the colour of the body is fresh pale green without any white bloom.

The viviparous winged female. This does not much differ from the winged insect, but the disc of the head, the chest, and the breast are pale brown: the wings are colourless, and a little longer than the body; the wing-ribs and the rib-veins are pale green; the brands and the other veins are tawny.

Length of the body 1½–2 lines; of the wings 3–3½ lines.

[To be continued.]

XXIII.—*Algæ Orientales:—Descriptions of new Species belonging to the genus* Sargassum. By R. K. Greville, LL.D. &c.*

[With a Plate.]

VACHELLIANÆ.

1. *Sargassum Henslowii* (nob.); caule compresso, ramosissimo; foliis cartilagineis, ecostatis, cuneatis, subdentatis, superioribus versus apicem oblique excavatis, acute dentatis; vesiculis oblongo-ellipticis, apiculatis; receptaculis minutis, cylindraceis, subpaniculatis.

Hab. in mari Chinensi, legit G. H. Vachell.

Whole plant three or four feet long, slender, but at the same time bushy from the numerous secondary branches. *Root* unknown. *Stem* not thicker than a crow-quill, compressed, giving off branches at intervals of 1–2 inches, some of which are a foot or more in length; secondary branches 1–3 inches long, thickly clothed with very short tufted ramuli, bearing the fructification. *Leaves*; on the main stem an inch or more long, of a thickish and somewhat opake substance, spathulate or cuneate, much attenuated towards the base, with one or two teeth towards the apex, which is more or less obtuse and oblique; on the branches the leaves are much smaller, more or less broadly lanceolate and acute, with generally a large tooth on one side above the middle, and the substance obliquely excavated as it were from the tooth to the apex. *Vesicles* 2–3 lines long, elliptical-oblong, with a slender foliaceous mucro, and supported on peduncles less than a line in length. Sometimes the vesicles are slightly margined, and they are, as well as the leaves, sparingly furnished with pores. Those intermixed with the receptacles are scarcely more than a line or a line and a half long. *Receptacles* not a line long, linear, cylindraceous, rarely single or once divided, but generally forming minute panicles or racemes composed of 3–5 receptacles, with one or two vesicles, and often with minute linear-lanceolate leaves. *Colour* in the dried state dark reddish brown.

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* Read before the Botanical Society of Edinburgh, July 13, 1848.

This species was kindly communicated to me by my friend Professor Henslow in 1831, and had been transmitted to him by the Rev. G. H. Vachell, along with other interesting plants from Macao and the adjacent islands.

2. *Sargassum Vachellianum* (nob.); caule brevissimo, teretiusculo, muricato; ramis elongatis, planis; foliis lineari-lanceolatis, submembranaceis, repando-dentatis; vesiculis sphæricis, petiolatis, petiolis compressis dilatatis; receptaculis cylindraceis, subdichotome racemosis.

Hab. in mari Chinensi, legit G. H. Vachell.

Plant two to three feet long, of a slender and graceful habit. *Root* a cartilaginous disc, from which arise several stems about an inch in length, cylindrical, as thick as a crow-quill, rough with the conical bases of former branches. From the summit of the stem are produced one or more main *branches*, flat, about a line broad, giving off a second series of branches at intervals of 1–2 inches, 2–6 inches long, and bearing a numerous series of very short ones with the fructification. *Leaves* more or less linear-lanceolate, repando-denticulate, sometimes almost spinuloso-denticulate, distinctly petiolate; those arising from the lower part of the primary branches two to near three inches long and nearly half an inch broad, of a firmer and thicker substance than the rest; those on the secondary branches smaller, seldom exceeding two inches in length, and becoming gradually narrower till on the upper parts they are strictly linear and acuminate, being often not more than a line or even less in breadth. Midrib narrow, disappearing below the apex; pores small and scattered. *Vesicles* nearly spherical, rarely mucronate, on petioles 2–3 lines long, which are sometimes dilated and foliaceous; those on the main branches nearly as large as a small garden-pea; those on the ramuli considerably smaller and subpyriform. *Receptacles* cylindraceous, forming a subdichotomously divided axillary raceme of an inch or more in length, on the lower part of which are generally found several vesicles and minute leaves, the latter preserving all the characters of the larger ones; the divisions of the raceme are conspicuously divaricate, and even the extreme apices often terminate in a minute wide-spreading fork, as in some species of *Cladonia*. *Substance* of the whole plant between cartilaginous and membranaceous, somewhat translucent. *Colour* in the dried specimens pale olivaceous brown.

This beautiful species is probably very variable in its secondary characters, and a larger series than I have seen would be required before it could be satisfactorily described. Young plants before the fructification is fully developed might almost be taken for another species.

This was also communicated by Professor Henslow.

3. *Sargassum ornatum* (nob.); ramis teretiusculis; foliis oblongo-obovatis, costatis, repando-dentatis, membranaceis, petiolatis; vesiculis subsphæricis; receptaculis cylindraceis, obtusis, racemosis.

Hab. in mare Chinensi?

Root unknown. The whole plant is probably upwards of two feet in length, but the only specimen I have seen is sixteen inches long, slender, producing branches towards the base, four or five inches in length, at intervals of about an inch, and becoming gradually shorter upwards. On these branches are situated the very short ramuli, which, besides the accompanying leaf, consist of nothing more in general than a vesicle or two and the raceme of fructification. *Leaves* one to near two inches long, the larger ones above half an inch broad, oblong-obovate, rounded at the extremity, attenuated at the base into a slender stalk, irregularly and unequally repando-denticulate, thin and translucent, the midrib slender, disappearing beneath the apex, the pores minute and scattered. *Vesicles* nearly spherical, the largest about the size of a small garden-pea, rarely mucronate or marginate, the stalk filiform, about two lines long; those which often form a part of the raceme, somewhat pyriform. *Receptacles* axillary, cylindraceous, obtuse, forming an irregularly divided raceme 3–5 lines in length. *Substance* thin and membranaceous, and on being remoistened, very flaccid. *Colour* pale yellowish or olivaceous brown.

A very elegant species, native I believe of the Chinese Seas; but I regret that my note regarding it has been mislaid.

EXPLANATION OF PLATE IV.

Sargassum Henslowii.

Fig. 1. A leaf from the main stem.
— 2. Ditto from the branches.
— 3. Vesicles.
— 4. One of the little tufted ramuli composed of leaves and receptacles.
— 5. Ditto with vesicles. 4 and 5 magnified.

Sargassum Vachellianum.

Fig. 1. One of the ultimate ramuli.
— 2. A vesicle from one of the main branches.
— 3. Vesicles from the racemes of fructification.
— 4. Leaf.
— 5. Part of a raceme. 4 and 5 magnified.

Sargassum ornatum.

Fig. 1. Part of a branch.
— 2. Leaf from the stem.
— 3. Vesicles.
— 4. Raceme of fructification ; the last magnified.

XXIV.—*Remarks on the Identity of the Epoch of the Coal-beds and Palæozoic Rocks of New South Wales.* By the Rev. W. B. Clarke, M.A., F.G.S. &c.

Having read with great attention and interest the observations of Mr. M'Coy "On the Fossil Botany and Zoology of the Rocks associated with the Coal of Australia," published in the 'Annals of Natural History' for September, October and November 1847, I feel impelled to offer a few remarks which I trust will be admitted into the pages of that Journal.

The specimens which have undergone so close an inquisition on the part of Mr. M'Coy were, as he has already stated, collected by me in various parts of the colony of New South Wales, on the eastern or sea-board side of the Cordillera or Dividing Ranges of the Blue Mountains, with the exception of the plants from Mudgee and Guntawang, which localities are on the summit of the western plateaux. By what accident I know not, but it is certain a considerable part of the fossils which I sent to Professor Sedgwick have been lost, for the missing cask which should have accompanied those received by him cannot be heard of. Had that cask reached its destination, it would have been found to contain numerous species both of plants and animals, including Testacea, Zoophytes, Crinoids, &c., which would more fully have confirmed, in some respects, Mr. M'Coy's conclusions. Amongst them were various species from the neighbourhood of Musselbrook, Wollon Hills, Mount Wingan, and the country